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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/623,140    08/28/00    NAKAMURA

M    Q 59949

EXAMINER
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IM22/0622

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MICHL, P	
ART UNIT	PAPER NUMBER

1714

DATE MAILED:

06/22/01

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

Applicant(s)

Examiner

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- ☒ Claim(s) 1-45 is/are pending in the application.  
Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-45 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

### Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_ ☐ Interview Summary, PTO-413
- ☒ Notice of References Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

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Claims 1-45 are rejected under 35 U.S.C. § 112 second paragraph. The claimed polymer A and the claimed polymer B fail to particularly point out and distinctly claim what applicants consider to be the invention. Polymer A contains cross-linkable functional groups. Polymer B is water soluble. A water soluble polymer which contains cross-linkable functional groups qualifies as both polymer A and polymer B. When such a polymer is used as both polymer A and polymer B, the composition becomes one of this polymer and compound C. Applicants do not consider a composition of one water soluble polymer having cross-linkable functional groups and compound C to be the invention. Applicants consider the invention to be a composition comprising two different polymers and compound C.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadowaki or Sawamoto or Isono. Applicants' claims are directed to a composition comprising polymer having

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cross-linkable functional groups, water soluble polymer, and a compound having methylene linked aromatic group and a functional group. Kadowaki discloses compositions comprising epoxy resin which meets applicants' polymer A, water soluble polymers in column 6, line 52 which meets applicants' polymer B and phenolic resin in column 13, line 10 which meets applicants' compound C. It would be obvious to one of ordinary skill in the art to formulate compositions according to Kadowaki comprising epoxy resin, water soluble polymer, and phenolic resin. Sawamoto discloses a composition comprising acrylic copolymer having carboxylic acid groups which meets applicants' polymer A, polymer having hydrolyzable silicon containing radical which meets applicants' polymer B and isocyanate which meets applicants' compound C. Isocyanates are disclosed in column 6, lines 7-23. Diphenylmethane diisocyanate is in column 6, line 16. It would be obvious to one of ordinary skill in the art to formulate compositions according to Sawamoto comprising acrylic resin having acid cross-linkable functional group, polymer having hydrolyzable silicon containing radical, and diphenylmethane diisocyanate. Isono discloses compositions which may comprise polyvinyl alcohol in column 6, lines 39-45. Polyvinyl alcohol is water soluble polymer within applicants' claims. In columns 8, 9, 10, 11, and 12 the patent discloses a number of polymers having cross-linkable functional group which qualify as polymer

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A. In column 13, lines 40-49 the patent discloses isocyanates including diphenylmethane diisocyanate which qualifies as compound C. It would be obvious to one of ordinary skill in the art to formulate compositions comprising a water soluble polymer such as polyvinyl alcohol, a polymer having cross-linkable functional groups, and an isocyanate such as diphenylmethane diisocyanate.

Claims 1-45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Arnold in view of either Isono or Sawamoto. Arnold discloses compositions comprising a polymer having hydroxyl groups which qualify as polymer A, polyacrylic acid or polymethacrylic acid which qualifies as polymer B and isocyanate. The difference between Arnold and applicants' claims is that Arnold does not specifically disclose an isocyanate having methyl linked aromatic group. Isono and Sawamoto are cited only for their disclosure of diphenylmethane diisocyanate which meets applicants' compound C. It would be obvious to one of ordinary skill in the art to formulate compositions according to Arnold comprising hydroxyl group containing polymer, a polyacrylic acid, and diphenylmethane diisocyanate. The motivation is that it would be within the skill of one in the art to utilize any conventional diisocyanate as the isocyanate compound in Arnold.

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Any inquiry concerning this communication should be directed to Paul Michl at telephone number (703) 308-2451.

The Examiner's supervisor is Vasu Jagannathan phone number (703) 306-2777. The fax number for this group is (703) 305-3599.

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June 21, 2001

  
**PAUL R. MICHL**  
**PATENT EXAMINER**  
**ART UNIT 156**